WHAT IS CLAIMED IS:

1. A piezoelectric oscillator, comprising:

a first package in which an oscillator circuit element to form an oscillator is disposed; and

a second package in which a piezoelectric resonator is disposed, the second package being firmly connected to the first package such that the second packaged is located on the first package;

the first package including a first lead frame and a second lead frame, an end portion of the first lead frame being bent in a direction away from the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a first connection terminal, an end portion of the second lead frame being bent in a direction toward the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a second connection terminal, the first connection terminal and the second connection terminal being located such that they overlap with each other when viewed in a vertical direction;

the oscillator circuit element being connected to internal terminals of respective first and second lead frames;

the first connection terminal serving as a mounting terminal;

the second connection terminal being electrically connected to an external terminal of the second package; and

the first package and the second package being firmly connected to each other.

2. The piezoelectric oscillator according to claim 1, a space between the first package and the second package being filled with a good thermal conductor with a higher thermal conductivity than air.

3. The piezoelectric oscillator according to claim 1, the end part of the first lead frame and the end part of the second lead frame being formed so as to be different in shape from each other thereby creating a difference in shape between the part, exposed to the outside on the surface of the package, of the first connection terminal and the part, exposed to the outside on the surface of the package, of the second connection terminal.

4. The piezoelectric oscillator according to claim 1, a portion of the end part of the first lead frame being bent downward such that the bent portion at the lower end is exposed to the outside and serves as the first connection terminal, while the remaining portion of the end part horizontally extends and serves as a control terminal.

5. The piezoelectric oscillator according to claim 1, the oscillator circuit element being fixed to one of the first and second lead frames.

6. The piezoelectric oscillator according to claim 1, a side end face of the mounting terminal being exposed on the outer surface of a molding resin.

7. The piezoelectric oscillator according to claim 1, the side end face of the mounting terminal protruding from the outer surface of a molding resin.

8. The piezoelectric oscillator according to claim 1, a molding resin being removed from a major surface of the mounting terminal of the first package molded with the resin.

9. The piezoelectric oscillator according to claim 1, the mounting terminal of the first package being formed at a location higher than the lower surface of the first package.

10. The piezoelectric oscillator according to claim 9, the mounting terminal of the first package being formed at the same height as the height at which a control terminal connected to the oscillator circuit element is formed.

11. The piezoelectric oscillator according to claim 1, the outer end portion of the first connection terminal of the first lead frame used to form the first package being cut off together with other unnecessary portions of the first lead frame when resin molding is performed.

12. A portable telephone apparatus, comprising:

a portable telephone; and

a piezoelectric oscillator, the portable telephone obtaining a control clock signal from the piezoelectric oscillator;

the piezoelectric oscillator including a first package in which an oscillator circuit element to form an oscillator is disposed and a second package in which a piezoelectric resonator is disposed, the second package being firmly connected to the first package such that the second packaged is located on the first package, the first package including a first lead frame and a second lead frame, an end portion of the first lead frame being bent in a direction away from the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a first connection terminal, an end portion of the second lead frame being bent in a direction toward the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a second connection terminal, the first connection terminal and the second connection terminal being located such that they overlap with each other when viewed in a vertical direction;

the oscillator circuit element being connected to internal terminals of respective first and second lead frames;

the first connection terminal serving as a mounting terminal;

the second connection terminal being electrically connected to an external terminal of the second package; and

the first package and the second package being firmly connected to each other.

13. An electronic apparatus, comprising:

an electronic device; and

a piezoelectric oscillator, the electronic device obtaining a control clock signal from the piezoelectric oscillator;

the piezoelectric oscillator including a first package in which an oscillator circuit element to form an oscillator is disposed and a second package in which a piezoelectric resonator is disposed, the second package being firmly connected to the first package such that the second packaged is located on the first package;

the first package including a first lead frame and a second lead frame, an end portion of the first lead frame being bent in a direction away from the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a first connection terminal, an end portion of the second lead frame being bent in a direction toward the second package such that the end portion is exposed to the outside and such that the exposed end portion serves as a second connection terminal, the first connection terminal and the second connection terminal being located such that they overlap with each other when viewed in a vertical direction;

the oscillator circuit element being connected to internal terminals of respective first and second lead frames;

the first connection terminal serving as a mounting terminal;

the second connection terminal being electrically connected to an external terminal of the second package; and

the first package and the second package being firmly connected to each other.